

# RESIDUE MANAGEMENT, NO-TILL AND STRIP TILL

N.C. Practice Job Sheet 329A

Prepared for: \_\_\_\_\_

Prepared by: \_\_\_\_\_

Farm: \_\_\_\_\_

Tract: \_\_\_\_\_

Date: \_\_\_\_\_



Residue from the last crop serves as ground cover for the current crop planted by the no-till method.

## DEFINITION

Managing the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops in narrow slots or tilled strips in previously untilled soil and residue.

## PURPOSE

This practice will be applied as part of a conservation management system to support one or more of the following:

- \* Reduce sheet and rill erosion.
- \* Reduce wind erosion.
- \* Maintain or improve soil organic matter content.
- \* Conserve soil moisture.
- \* Provide habitat for wildlife.
- \* Improve soil quality.
- \* Improve air quality.
- \* Maintain or improve water quality.
- \* Improve nutrient use efficiency.
- \* Reduce carbon emissions.

## CRITERIA

Residues must be uniformly distributed on the soil surface. Where combines or similar machines are used for harvesting, they shall be equipped with spreaders capable of distributing residue over at least 80 percent of the working width of the header.

Residues shall not be burned or disturbed by full width tillage.

Planters or drills must plant directly through untilled residue or in a tilled seedbed prepared in a narrow strip.

If row cultivation or spot treatment for weeds, leveling ruts, or similar operations become necessary, tillage shall be limited to operations which minimize burial of surface residue.

The amount of residue at planting should provide the maximum ground cover that can be managed for satisfactory crop establishment. In no case will the ground cover be less than 30% immediately after planting using the line transect method. Partial removal of residue by means such as baling or grazing shall be limited to retain the amount needed.



A ground cover of 80% or more is needed to gain the greatest range of benefits associated with increased organic matter content.

A photograph showing a vast agricultural field with rows of young green plants, likely corn, growing in a field. The plants are arranged in long, straight rows, and the field is bordered by a line of trees in the background.

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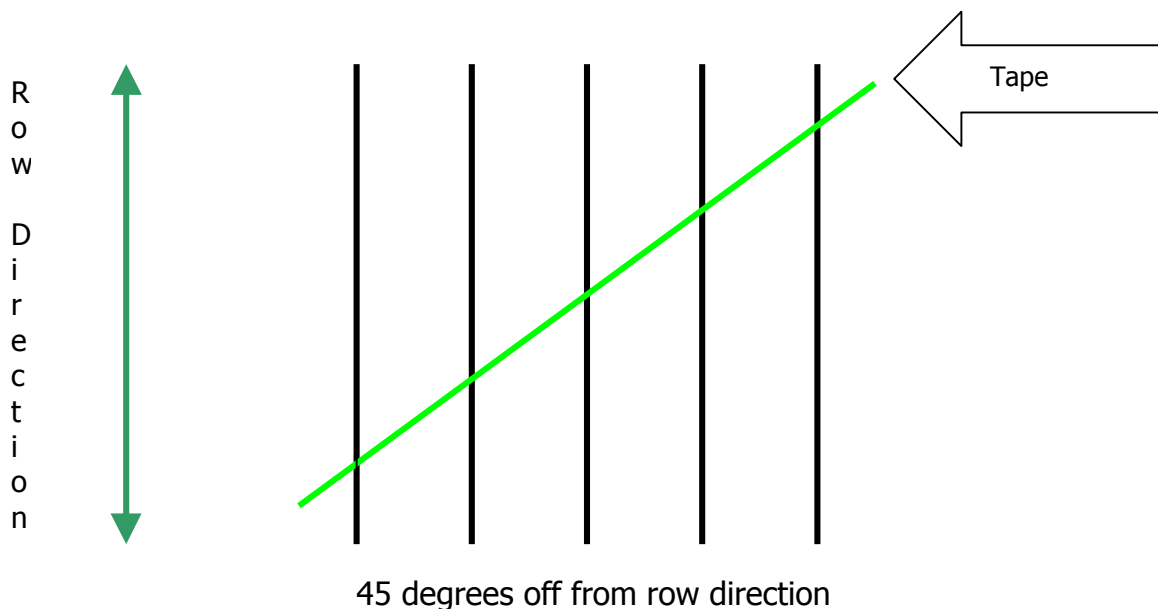


This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## ESTIMATING PERCENT GROUND COVER USING THE LINE TRANSECT METHOD

The line transect method has proven most effective in estimating the percent ground cover by plant residue. The following is the recommended procedure for using the line transect method.

- ❖ Use a commercially available 50 or 100 foot long tape or chain which has one-foot intervals clearly marked.
- ❖ Select an area that is representative of the field as a whole and stretch the line out across the rows. Lay the tape at a 45 degree angle off the row direction.



- ❖ Walk along the line, stopping at each one-foot mark, using the same edge of the line for all sightings. Looking straight down, determine whether a piece of residue is **directly beneath** the mark. Count the number of marks under which is seen a piece of residue large enough to intercept a raindrop. A rule of thumb is to count only residue which is 3/32 inch wide. Do not move the line while counting.
- ❖ When using a line with 100 marks, the per cent residue cover is equal to the number of marks under which a piece of residue is counted. Double the number for a 50-foot line.



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